Senior Design Lab
2015-2016
ECEN-4610 / 4620
Selecting Projects and Teams
What does complex system development look like?

• What does it look like to you?
• What does hardware design look like?
• How about software design?
• What **should** these look like??

• What are you really capable of?? Don’t you want to find out ?!

In Senior Design Lab, we will explore and experience this in-depth...
What makes a good project?

• Exciting
• Really challenging but feasible
• Something you are interested in
• Product fulfilling an actual need
• Product a real customer wants
  • Company or research project
• Affordable*

• One that Senior Design Instructors Approve
  • Appropriate scope for team size
  • Involve hardware, software, and mechanical aspects
  • Include at least one custom PCB
  • Not just a system integration

Projects will be evaluated on a balance or sum of these

* We help you find a sponsor or funding. Unless a potential project is fairly expensive (> $2K), cost should not be your first decision factor.
Choosing Projects

• Instructors will not choose a project for you or assign you a project
• Try getting out of your comfort zone
• Learn a technology, tool, device... that will differentiate you
• Arduino, rPi, BBB are popular for proof-of-concept
  • Move beyond these for your end product

• Professor Femrite is available by e-mail or appointment to discuss project ideas. Even over the summer.
Rules about Teams

• Tuesday 5pm of 2\textsuperscript{nd} week:
  • Team members must register under their official team name on D2L
    • This includes telling us if you are participating on interdisciplinary team
    • Unregistered students are administratively dropped

• Teams as small as 3 (special permission), no more than 6
  • Instructors won’t put you on a team; \textit{solely} your responsibility

• Team membership is immutable
  • Problems down road can’t be solved by jumping ship or evictions
  • Team experience is integral to Capstone
  • Projects must have contingencies for successful completion even with interpersonal dynamics
Interdisciplinary Teams

• If you’d like to work as part of an Aero, CS team, or ME team in that Dept’s Senior Design Lab...

  Can be accommodated 99% of the time. **Discuss with instructor(s) in person or by e-mail.**

• Conversely if you want to form an ECEE team that includes ME, CS, AE, CEAE, or ChE seniors......

  That can happen too. **E-mail or talk to instructor(s).**
Conclusions around choosing teams

Which comes first, the team or the project?
Which comes first, sponsorship or the project?

• Seek your team members NOW.
  • You have very little time for this at start of the course

• Seek those you are most comfortable with

• Avoid any single “indispensable” members
  (Single point failure mode)

• Balance!!
  • Organization, software, hardware, mechanical aspects...
  • Specialists around Controls, Power, Wireless...
  • Those who know MATLAB, SolidWorks, Mentor Graphics...